contactor. After the last car of train No. 1 is off the contactor, the track signal changes to "Go", current flows back in the track block and the waiting train continues on its way. In this way, the second train can never overhaul the first train, but always remains a safe distance behind it.

In order to give the waiting train a fast start, the current supplied to the insulated block through the contactor and Lockon "A" should be 2 to 3 volts higher than the current supplied to the rest of the track through Lockon "B".

NOTE: When operating two trains automatically don't forget to disconnect their reversing "E-Units", as described on page 6. Otherwise the trains, after being stopped, will not resume forward motion but will remain standing in "Neutral".

Two of the many possible layouts using 153C contactor and insulated track blocks for two-train operation are shown in Figure 41. The basic wiring of these layouts is the same as in Figure 39. If you use a 151 Semaphore instead of the 153 Block Signal follow wiring in Figure 40. The chart in Figure 42 shows the connections to most modern transformers.

Automatic operation of trains can also be accomplished by using special OSS and OCS insulated track. Diagrams illustrating this type of installation are found on page 44 in Part Three of this booklet. Many other variations of these installations can be worked out.

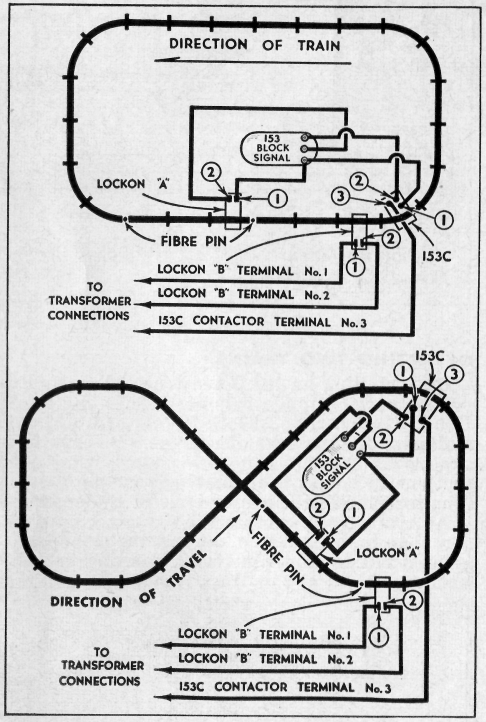


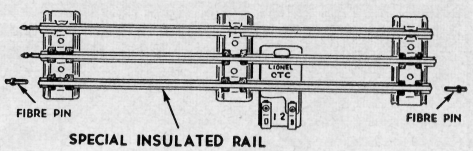
Figure 41—Typical Two-Train Layouts. For Transformer Connections See Table Below

Transformer Type	Lockon "B" Terminal No. 1	Lockon "B" Terminal No. 2	153 Contactor Terminal No. 3
1032, 1033, 1034 1041, 1042, "RW"	B	U	A
"VW" and "ZW"	A or D	U	B or C
"S"	U	A or B	C
"R"	C	A or B through 167	F
"V" and "Z"	C or D through 167	U	B or C

Figure 42—Transformer Connections for Two-Train Operation

SPECIAL INSULATED TRACK SECTIONS OSS AND OCS

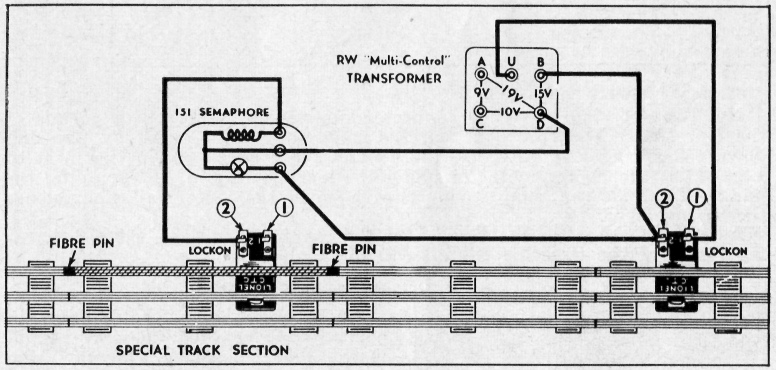
Special track sections OCS (curved) and OSS (straight) matching "O" gauge track are used as wheel-operated electrical switches to accomplish automatic operation of accessories such as the No. 151 Semaphore, No. 252 Crossing Gate, No. 145 Gateman, and others. These sections can also be used for automatic control of track switches or to control stopping and starting of two trains running on the same track.



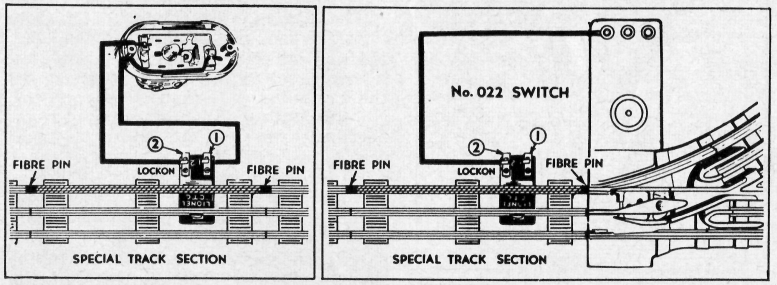
Special Insulated Track Section

As illustrated above, one of the outside rails of the special section is insulated from the track ties and from the other rails. To complete the insulation of this rail from the rest of the layout, fibre pins should be inserted in both ends of the rail. Connections to the special sections are made by means of a track Lockon attached *on the side of the insulated rail.*

Typical use of special sections are illustrated below. When properly connected to the transformer and to the special section, the accessories will operate when the wheels and axles of a train passing over the special section complete the electrical circuit by bridging the insulated rail to the "grounded" outside rail on the opposite side.



Typical Installation Using Fixed Voltage from Tranformer



Left—Installation Using Track Voltage. Right—Using Insulated Track for Automatic Control of Switch